Project Title:
The Sun's Role in Decadal Climate Change since 1980, and in the last Century

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Project Information:
The goal of this research is the empirical and modeling quantification of spatial climate patterns associated with decadal solar forcing, as distinct from ENSO, volcanic and greenhouse gas influences. A multiple regression of surface and satellite-based temperature data with the observed forcings will be done for the last 20 years, the time period covered by space-based data. The spatial pattern of the trend component may offer clues about its origin, specifically the relative importance of anthropogenic and solar forcings. The forcings/events will also be input to a high resolution climate/middle atmosphere model with chemistry to assess its responses for comparison with the observational record. The model will allow for a detailed evaluation of the potential response mechanisms. The analysis will then be extended to the past 100 years, and the patterns compared to the more recent data, to understand the consistency in response and the validity of the proposed forcings over this time (in particular the solar forcing). The research should provide new characterizations of contemporary regional climate responses to solar irradiance variations.

ROSES ID: NRA-03-OSS-01
Duration:
Selection Year: 2004
Program Element: Independent Investigation: LWS

Citations:

Summary: ''

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Summary: no summary

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Summary: no summary

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Summary: no summary

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